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# BREEDS *of* DAIRY CATTLE

**B**REEDS of dairy cattle differ in both conformation and general characteristics. Each has been developed for certain ends. In selecting a breed for any dairy enterprise, consideration ought to be given to factors which will make for the success of that particular business.

The prevailing type of each breed and the ideal toward which the breeders are striving are described in this bulletin. Such information, together with a brief history of the origin and development of each breed, should be of value to the breeder in beginning and carrying on his breeding operations.

Only those breeds having a large representation in the United States are included in the discussion.

# BREEDS OF DAIRY CATTLE.

H. P. DAVIS, *Dairy Husbandman, Dairy Division.*

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## FACTORS TO BE CONSIDERED IN THE SELECTION OF A BREED.

CONDITIONS affecting dairying vary so greatly in the different sections of the United States that many things must be considered in the selection of a suitable breed of dairy cattle. Although the different dairy breeds are alike in general dairy tendencies, each breed has peculiarities which adapt it to certain conditions. Therefore, not only the conditions to be met but also the characteristics of the breed must be judged in order to make the wisest selection.

Two sources of income from dairy cattle are to be considered. One is represented by the sale of products, either milk or butterfat; and the other comes from the sale of surplus stock. Often the latter may amount to a considerable sum, even though the herd is composed of grade animals.

Another point that should be borne in mind is that no single breed is altogether superior to all others; it may excel in certain features, but not in all. It is best, therefore, to select the breed which comes the nearest to meeting the necessary conditions.

## MARKET REQUIREMENTS.

Most of the milk sold in towns and cities is subject to certain requirements as to quality, among which are standards for the butterfat and milk solids. For a large percentage of the milk, payment is based upon quantity or weight, without special reference to any butterfat content above the legal standard. Local requirements differ greatly as to the butterfat and solids content, but the standard of the United States Department of Agriculture for use in inter-

NOTE.—H. P. Davis, author of this bulletin, resigned April 30, 1919; this revision has since been prepared in the Dairy Division.

state commerce of 3.25 per cent butterfat and 8.5 per cent solids not fat is a fair example of the quality of milk required. Many cheese factories and also some condensaries buy the milk on the weight basis, provided a certain minimum standard is reached. Recently it has become much more common among the buyers to purchase milk upon the basis of butterfat content. This basis is being adopted among the large dealers in cities, and it undoubtedly is a much fairer method than the straight-weight system. All creameries and ice-cream factories and many condensaries buy milk or cream on the butterfat basis, and a majority of cheese factories also have adopted this method of buying.

Consumers, as a rule, much prefer milk of a deep-yellow color, which usually is considered to be an indication of richness. A distinct and deep cream line in the milk bottle is another feature by which the quality of the milk is judged. Although generally the consumer does not want to pay more for a better quality of product, occasionally it is possible to create a demand for rich milk at a higher price.

#### **BREED PREVAILING IN THE COMMUNITY.**

Very often the benefits of cooperative effort are lost through the exercise of an inborn spirit of independence. Consequently it frequently happens that in the selection of a breed no consideration is given to the fact that a breed already may be established in the locality. The predominance of a certain breed in a community offers many advantages. A market is established which, because of the availability of large numbers of animals, attracts buyers from a distance, especially those who buy large consignments. Under such circumstances all surplus stock may be disposed of to better advantage and cooperative advertising also may be used effectively. In addition bulls may be bought cooperatively or exchanged with facility, thus very materially reducing the cost of service in the herd.

Any necessary additions to the herd can be obtained, without expense for travel, from neighbors' herds with whose history the buyer is thoroughly familiar. These advantages apply not only to the breeder of purebred cattle but also to the owner of grades.

#### **PERSONAL PREFERENCE.**

Personal preference is very important in choosing a breed, but too often it is the only thing considered, leading sometimes to the selection of a breed unsuited to local conditions, with resulting failure for the venture. While the greater the interest in any undertaking the more likely it is to be successful, a dairyman at least should consider his market and the community breed, as well as his own preference, in the matter of choosing a breed.

**NATURE OF THE COUNTRY AND CLIMATE.**

In this country there is a very wide range of conditions, as to both topography and climate. On rich, level pastures all breeds thrive, but on rough, hilly land, where pasturage is scant, they do not show equal adaptability. In the extreme cold of the North, with its long winters, different resisting qualities are needed as compared with the almost tropical heat in the southern parts of the country.

**CURRENT PRICE OF THE BREED.**

The prices of the several breeds of dairy cattle have been subject to considerable variation from year to year. Nearly all have had periods of "boom" when inflated prices were paid for animals. Just as a breed may enjoy a high tide of popularity, so it may suffer a period of depression. Frequently, during a period of depression, animals of good producing ability may be obtained at relatively small cost. A comparison of prices during several years will indicate the trend in value for any breed.

**ESTIMATE OF THE FUTURE OF A BREED.**

It is very difficult to arrive at a true estimate as to the future development and popularity of a breed, which is a matter of great importance to the breeder of purebred cattle and, to a less degree, to the breeder of grades, since a considerable part of the income from dairy cattle comes from the sale of surplus stock. A marked variation in the market price of cattle affects materially the returns from the dairy.

Perhaps one of the most common causes of fluctuation in price is the prevalence of fads, of which the most popular is color. Probably nothing retards the general development of a breed so much as these notions, which have no relation to the producing ability of animals.

There is a marked tendency toward larger size in dairy cattle because a larger animal, by its greater consumption of feed, has the possibility of greater production. Ordinarily, from the point of view of the added beef value, too much stress is placed upon size. This difference in value is so small as to be of little importance in comparison with other features.

**PREPOTENCY.**

The type of the breed should be well established if the breeder desires to have the characteristics of his animals transmitted to their offspring. In the case of grade herds it is especially desirable that the characteristics of the purebred bull be transmitted to his

offspring. Females showing the external characteristics of their sire may reasonably be expected to have also some of the milk-producing ability of his ancestors.

#### SCORE CARDS.

Dairy cattle registry associations have found that in the development of a uniform conformation in their respective breeds it is helpful to establish an ideal toward which to work. As an aid, score cards, which place certain values on separate characteristics, have been adopted. In some instances great emphasis has been placed on certain points of conformation which it was desired to establish as characteristics of the breed. Score cards, therefore, from a general-production standpoint, do not represent necessarily the relative value of the points of the animal, but are useful to the breeder in indicating the ideals toward which the breed is being developed. For this reason the official score card adopted by each breed association is given in this bulletin.

#### ORIGIN AND CHARACTERISTICS OF THE BREEDS.

In the United States five breeds of dairy cattle have attained considerable prominence, namely, the Ayrshire, Brown Swiss, Guernsey, Holstein-Friesian, and Jersey. These breeds have been developed carefully for a considerable time for the purpose of dairy production, and in consequence each transmits its characteristics with regularity to its offspring. Certain distinct features distinguish each breed from the others, but all possess ability as milk producers. There is, of course, considerable variation in the characteristics of individuals within each breed. The description given in this bulletin refers to the general, or predominating, type.

#### AYRSHIRE.

##### ORIGIN AND HISTORY.

The Ayrshire breed originated in the county of Ayr, in southwestern Scotland. In that region, which borders on the Irish Sea, the surface is rolling and has much rough woodland. Pastures, therefore, are somewhat sparse and it is necessary for animals to graze large areas in order to obtain sufficient feed.

It is only within the last hundred years that Ayrshires have had a type well enough established to be entitled to the designation of breed. No exact account of the different infusions of blood of other breeds into the native Scotch cattle to form the Ayrshire breed is at hand. It is probable, however, that the Channel Islands, Dutch, and English cattle were all represented.

## IMPORTATIONS AND DISTRIBUTION.

The first importation of Ayrshires to this country was made in 1822, since which time there have been frequent importations into both the United States and Canada. New England, New York, and Pennsylvania probably contain the largest number of representatives of the breed. There is a small distribution in the other Atlantic States and the Pacific Northwest. In Canada Ayrshires have had

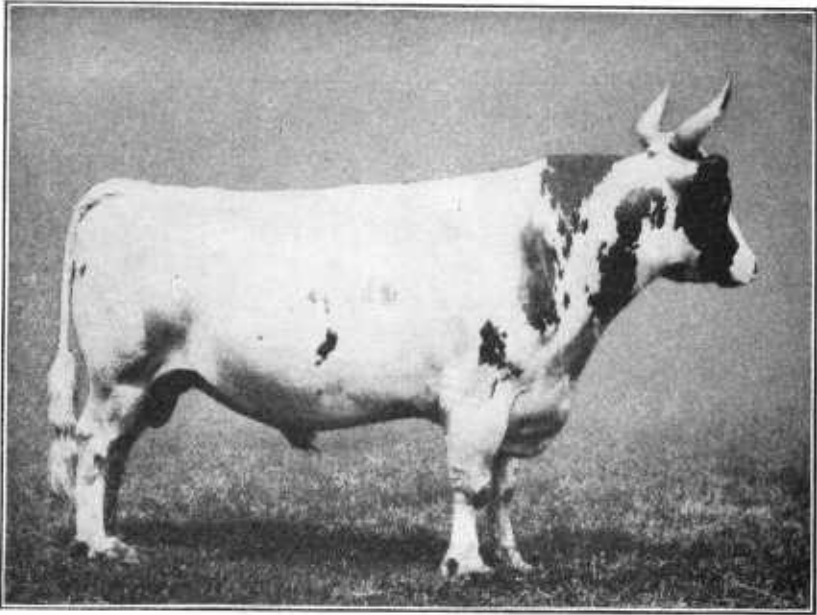


FIG. 1.—Ayrshire bull, imp. Lessnessock MacDonald 13036.

great popularity and the breed seems well able to withstand the rigors of the Canadian climate. The merits of the breed have not been advertised widely; consequently it is not well known in many sections of the United States.

## CHARACTERISTICS.

The colors of Ayrshires may vary from a medium red to a very dark mahogany brown and white, with either color predominating. Of late years among breeders there has been a decided tendency toward white with red markings. A black muzzle and a white switch are desired, but are not necessary for registration. Perhaps the most picturesque feature of animals of the breed is their long horns, which turn outward, then forward and upward. Another point of which breeders of the Ayrshire are very proud is the uni-



form, square, level udder with long body attachment which is common among the cows.

Quick, brisk actions are characteristic of the animals, which seem always to have an abundant store of energy and to be exceptionally alert. Ayrshires have a highly nervous disposition, which is useful for both production and self-support. Probably none of the other dairy breeds can compare with the Ayrshires in ability to obtain a livelihood on scant pastures. Their ability as "rustlers" has made them very useful in sections where there is much rough land in pasture.

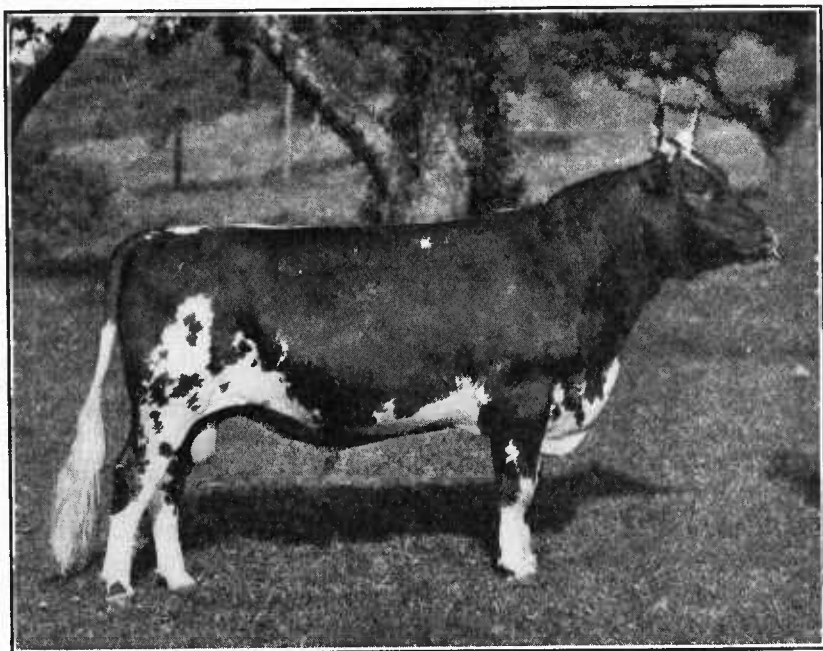


FIG. 2.—Ayrshire bull, Admiral Beatty of Wendover 20931.

In weight the cows may vary from 900 to 1,300 pounds (average about 1,000 pounds); bulls weigh between 1,400 and 2,000 pounds (average about 1,600 pounds). The animals are noticeably compact in body, with a tendency to smoothness over all parts. Formerly they were criticized for their short teats, but that fault has been removed largely by careful breeding. As a breed Ayrshires are generally very hardy and show great constitutional vigor.

At birth the calves weigh from 55 to 80 pounds, are very vigorous, easy to raise, and make rapid gains. Heifers reach maturity of frame at an age between the Holstein and the Jersey.

The scale of points for cows, adopted in 1906 by the Ayrshire Breeders' Association, is given below to show the points which breeders consider important:

# Breeds of Dairy Cattle.

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## Scale of points for Ayrshire cow.

	Points.
Head -----	10
Forehead: Broad and clearly defined-----	1
Horn: Wide set on and inclining upward-----	1
Face: Of medium length, slightly dished; clean cut, showing veins--	2
Muzzle: Broad and strong without coarseness, nostrils large-----	1
Jaws: Wide at the base and strong-----	1
Eyes: Full and bright, with placid expression-----	3
Ears: Of medium size and fine, carried alert-----	1
Neck: Fine throughout, throat clean, neatly joined to head and shoulders, of good length, moderately thin, nearly free from loose skin, elegant in bearing -----	3

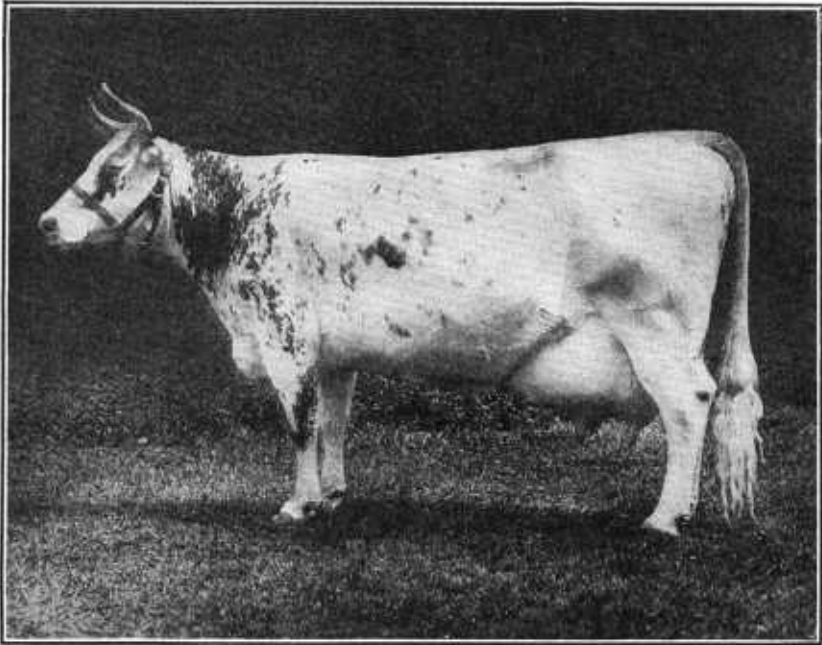


FIG. 3.—Ayrshire cow, Bloomer's Queen 39119.

Fore quarters -----	10
Shoulders: Light, good distance through from point to point but sharp at withers, smoothly blending into body-----	2
Chest: Low, deep, and full between back and forelegs-----	6
Brisket: Light -----	1
Legs and feet: Legs straight and short, well apart, shanks fine and smooth, joints firm, feet of medium size, round, solid, and deep--	1
Body -----	13
Back: Short and straight, chine lean, sharp, and open-jointed-----	4
Loin: Broad, strong, and level-----	2
Ribs: Long, broad, wide apart, and well sprung-----	3
Abdomen: Capacious, deep, firmly held up, with strong muscular development -----	3
Flank: Thin and arching-----	1

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	Points.
Hind quarters-----	11
Rump: Wide, level, long from hooks to pin bones, a reasonable pelvic arch allowed-----	3
Hocks: Wide apart and not projecting above back nor unduly overlaid with fat-----	2
Pin bones: High, wide apart-----	1
Thighs: Thin, long, and wide apart-----	2
Tail: Fine, long, and set on level with back-----	1
Legs and feet: Legs strong, short, straight, when viewed from behind and set well apart; shanks fine and smooth, joints firm, feet medium size, round, solid, and deep-----	2

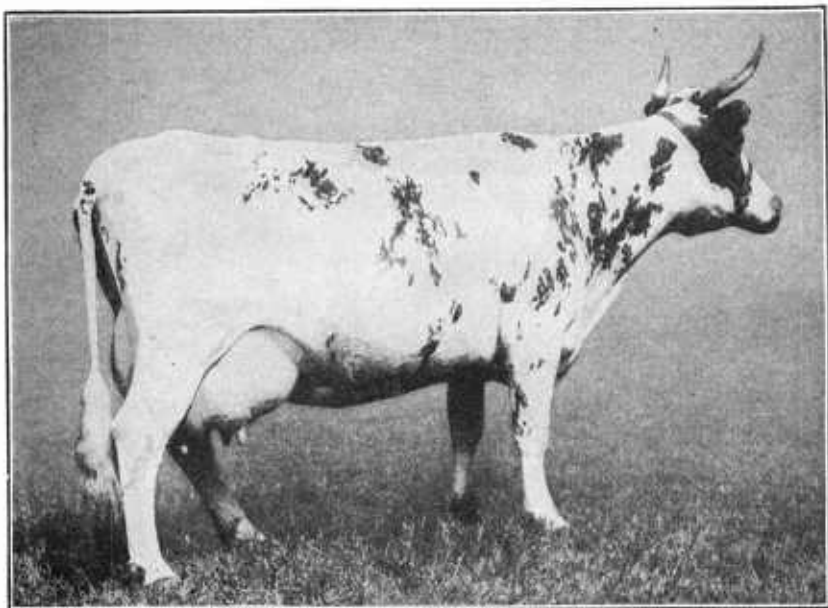


FIG. 4.—Ayrshire cow, Lily of Willowmoor 22269.

Udder, long, wide, deep, but not pendulous nor fleshy; firmly attached to the body, extending well up behind and far forward: quarters even; sole nearly level and not indented between teats, udder veins well developed and plainly visible-----	22
Teats, evenly placed, distance apart from side to side equal to half the breadth of udder, from back to front equal to one-third the length; length $2\frac{1}{2}$ to $3\frac{1}{2}$ inches, thickness in keeping with length, hanging perpendicular and not tapering-----	8
Mammary veins, large, long, tortuous, branching, and entering large orifices-----	5
Escutcheon, distinctly defined, spreading over thighs and extending well upward-----	2
Color, red of any shade, brown, or these with white; mahogany and white, or white, each color distinctly defined. (Brindle markings allowed but not desired.)-----	2

	Points.
Covering.....	6
Skin, medium thickness, mellow and elastic.....	3
Hair, soft and fine.....	2
Secretions, oily, of rich brown or yellow color.....	1
Style, active, vigorous, showing strong character, temperament inclined to nervousness but still docile.....	4
Weight, at maturity not less than 1,000 pounds.....	4
Total.....	100

## PRODUCTION.

Milk from Ayrshire cows contains comparatively little color and has the fat in uniformly small globules which average smaller in size than in any other breed. For these reasons the milk sometimes fails to show a distinct cream line, by which the consumer often judges the quality of the milk. Ayrshire milk, because of the small fat globules, stands shipping well without churning, and in other respects it is well adapted to the market-milk trade. The percentage of the butterfat in the milk is medium, and consequently there is no difficulty in conforming to local or State butterfat standards.

The average of the 3,319 cows and heifers that have completed yearly records for advanced registry<sup>1</sup> to June 5, 1919, is 9,621 pounds of milk, testing 3.96 per cent of butterfat, amounting to 381.20 pounds of fat. The 10 highest producers of the breed for milk and butterfat to January, 1920, are given below:

*Ten highest milk producers among Ayrshires.*

	Pounds of milk.
1. Garclaugh May Mischief 27944.....	25,329
2. Auchenbrain Brown Kate 4th 27943.....	23,022
3. Lily of Willowmoor 22269.....	22,596
4. Garclaugh Spottie 27950.....	22,589
5. Jean Armour 3d 32219.....	21,938
6. Bloomer's Queen 39119.....	21,938
7. Auchenbrain Yellow Kate 3d 36910.....	21,123
8. Gerranton Dora 2d 23853.....	21,023
9. Jean Armour 25487.....	20,174
10. Canary Bell 25748.....	19,863
Average.....	21,959.5

*Ten highest butterfat producers among Ayrshires.*

	Pounds of milk.	Pounds of butterfat.
1. Lily of Willowmoor 22269.....	22,596	955.56
2. Auchenbrain Brown Kate 4th 27943.....	23,022	917.60
3. Garclaugh May Mischief 27944.....	25,329	894.91

<sup>1</sup> SPECIAL REGISTRATION OF HIGH PRODUCERS.—For each of the breeds discussed in this bulletin there is a register in which purebred cows that have completed milk and butterfat records under definite regulations are entered. These registers are called: For Ayrshires, advanced registry; for Guernseys and Holsteins, advanced register; for Brown Swiss, register of production; and for Jerseys, register of merit. Bulls are entered in these special registers when a certain number of their daughters have been entered,

	Pounds of milk.	Pounds of butterfat.
4. Auchenbrain Yellow Kate 3d 36910-----	21, 123	888. 33
5. Jean Armour 3d 32219-----	21, 938	859. 65
6. Bloomer's Queen 39119-----	21, 820	856. 41
7. August Lassie 29581-----	19, 582	831. 50
8. Agnes Wallace of Maple Grove 25171-----	17, 657	821. 45
9. Netherhall Brownie 9th 23985-----	18, 110	820. 91
10. Garclaugh Spottie 27950-----	22, 589	816. 25
Average-----	21, 376. 6	866. 26

## FAMILIES.

On account of the comparatively recent origin of the breed few families have been developed. The more prominent in the United States are the Brownie, Auchenbrain, Finlayston, White Cloud, Jean Armour, and Robin Hood.

## BULLS.

The 10 Ayrshire bulls having the largest number of daughters with advanced-registry records to October, 1919, are listed below, together with the average production of their daughters.

*Ten Ayrshire bulls with largest number of advanced-registry daughters.*

	Number of daughters.	Average pounds of milk.	Average pounds of butterfat.
1. Finlayston 8882 -----	51	10, 421	431
2. Beuchan Peter Pan 12971-----	51	9, 890	394
3. Earl's Choice of Spring Hill 8289-----	42	9, 061	380
4. Nox'emall 7312-----	35	9, 772	373
5. White Cloud of Hickory Island 16377-----	32	11, 276	440
6. Morton Mains' Queechy 11537-----	27	9, 890	400
7. Willowmoor Robin Hood 11900-----	23	9, 820	432
8. Moonstone of Drumsule 8228-----	22	8, 778	357
9. Howie's Dairy King 9855-----	21	11, 695	457
10. Holehouse White King 10348-----	19	10, 386	403

## ORGANIZATION.

The official organization of the Ayrshire breed in the United States is the Ayrshire Breeders' Association, with headquarters at Brandon, Vt. The secretary resides there and has charge of both registration and advanced-registry work.

## BROWN SWISS.

## ORIGIN AND HISTORY.

The Brown Swiss breed originated in the Canton of Schwyz, in eastern central Switzerland. The cattle are called variously Brown Switzer, Brown Schwyzer, and Brown Swiss, the last name being the one commonly used in the United States. Conditions in Switzerland are such that a strong animal capable not only of milk produc-

tion but of service as a draft animal is desired, and the large frame is evidence of fitness for these requirements.

#### IMPORTATIONS AND DISTRIBUTION.

The first importation into the United States was made in 1869, and although other importations have been made since, comparatively few animals have been brought to this country. Quarantine regulations in the United States against contagious animal diseases on the Continent of Europe probably have hindered the introduction of large numbers of these animals. The distribution in the United

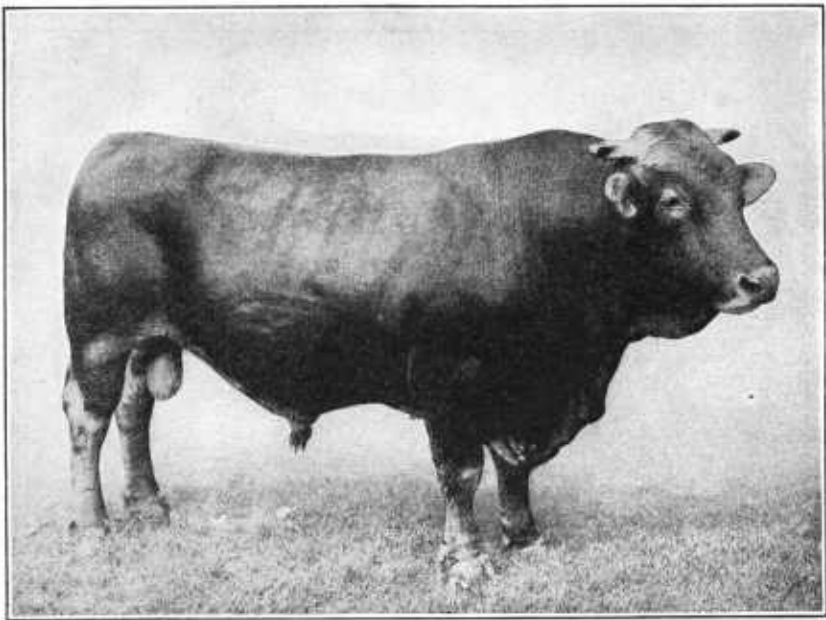


FIG. 5.—Brown Swiss bull, Imp. Junker 2365.

States is not widespread, the cattle being found principally in the States of New York and Wisconsin. The present popularity of the Brown Swiss has been gained entirely by the merits of the animals, as they have not been much advertised.

#### CHARACTERISTICS.

In color the cattle vary from a light-gray, mouse color, or brownish dun to dark brown. A medium shade of brown shading into a light gray or almost white strip along the backbone and on the belly is preferred. The udder is usually white, switch of tail and hoofs black. A black muzzle with a creamy or mealy ring around it is characteristic. The horns, of medium size, are white at the base and black at the tip. In disposition the cattle are mild and

docile and for their size are very active; they are excellent grazers, especially on rough land.

The cows when mature weigh from 1,100 to 1,600 pounds (average about 1,250 pounds); bulls range from 1,500 to 2,500 pounds. The cattle are compact, smoothly fleshed over all parts, and when dry rapidly put on flesh, which is milked off well after freshening. Straightness of hind legs is a typical characteristic of the breed.

The breed has been criticized because certain animals have shown lack of regularity in type of udder and have had exceptionally large teats. As the breeders pay more attention to these points great improvement is observed.

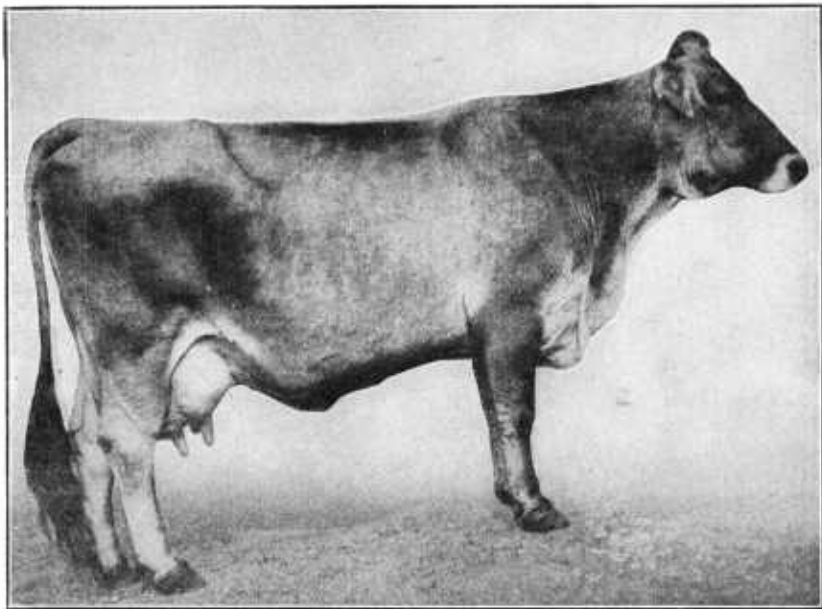


FIG. 6.—Brown Swiss cow, College Bravura 2d 2577.

Calves at birth are large and vigorous and weigh from 65 to 90 pounds. As a rule, animals of the breed are somewhat slower in maturing than those of other dairy breeds.

The scale of points for cows, adopted by the Brown Swiss Cattle Breeders' Association, is given below:

<i>Scale of points for Brown Swiss cow.</i>		Points.
Head, medium size and rather long.....		2
Face, dished, narrow between horns and wide between eyes.....		2
Ears, large, fringed inside with light-colored hair, skin inside of ear a deep orange color.....		2
Nose, black, large, and square, with mouth surrounded by neatly colored band, tongue black.....		2
Eyes, moderately large, full, and bright.....		2

	Points.
Horns, short, regularly set, with black tips.....	2
Neck, straight, throat clean, neatly joined to head, shoulders of good length, moderately thin at the withers.....	4
Chest, low, deep, and full between and back of forelegs.....	6
Back, level to setting of tail and broad across the loin.....	6
Ribs, long and broad, wide apart and well sprung, with thin, arching flanks.....	3
Abdomen, large and deep.....	5
Hips, wide apart, rump long and broad.....	4
Thighs, wide, quarters not thin.....	4
Legs, short and straight with good hoofs.....	2
Tail, slender, well set on, with good switch.....	2
Hide of medium thickness, mellow and elastic.....	3

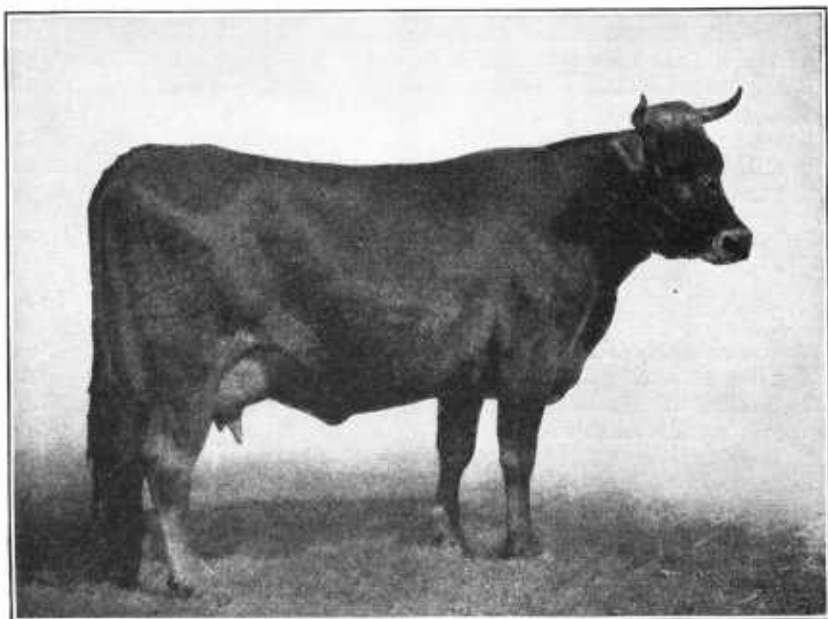


FIG. 7.—Brown Swiss cow, Vogel 3464.

Color shades from dark to light brown, at some seasons of the year gray ; white splashes near udder not objectionable ; light stripe along back ; white splashes on body or sides objectionable ; hair between horns usually lighter shade than body.....	4
Fore udder, wide, deep, well rounded, but not pendulous nor fleshy, extending far forward on the abdomen.....	12
Rear udder, wide, deep, but not pendulous nor fleshy, extending well up behind.....	12
Teats, rather large, set well apart, and hanging straight.....	8
Milk veins large, long, tortuous, elastic, and entering good wells.....	6
Disposition, quiet.....	2
Size, evidence of constitution, and stamina.....	5



## PRODUCTION.

In milk production this breed ranks well, with a moderate percentage of fat. The average of the 228 cows that have completed yearly records of production to January 1, 1918, is 10,931.1 pounds of milk testing 3.998 per cent, amounting to 437.02 pounds of butterfat.

The 10 highest milk and butterfat producers of the breed to October 13, 1919, are given below:

*Ten highest milk producers among Brown Swiss.*

	Pounds of milk.
1. College Bravura 2d 2577-----	19,460.6
2. Ethel B. 3842-----	18,816.2
3. Lottie G. B. 3530-----	17,595.3
4. Brownie F. 4855-----	17,420.8
5. Nan of Lake View 4061-----	17,136.4
6. Iola 3923-----	16,844.6
7. Rosalind B. 3905-----	16,804.4
8. Miss Salem 3573-----	16,658.0
9. Kaliste W. 2905-----	16,609.2
10. Flora Duwire 4105-----	16,538.1
Average-----	17,388.4

*Ten highest butterfat producers among Brown Swiss.*

	Pounds of milk.	Pounds of butterfat.
1. College Bravura 2d 2577-----	19,460.6	798.16
2. Ethel B. 3842-----	18,816.2	779.97
3. Rosalind B. 3905-----	16,804.4	727.64
4. Iola 3923-----	16,844.6	685.47
5. Edna C. 3d 5092-----	16,496.7	669.35
6. Lottie G. D. 3530-----	17,595.3	664.25
7. Brownie F. 4855-----	17,420.8	662.25
8. Buenna F. 4279-----	15,957.8	654.97
9. Kaliste W. 2905-----	16,609.2	650.32
10. Flora Duwire 4105-----	16,538.1	649.42
Average-----	17,254.4	694.18

## FAMILIES.

Families of Brown Swiss have not been developed to any great extent in this country.

## BULLS.

Only a few bulls have more than one daughter in the register of production<sup>1</sup>; the 13 with the largest number of daughters to June, 1917, are:

McAvoy 2068.

Zell 2512.

Reuben 2927.

Casper C. 1999.

Ben Hanson 2373.

Collier 2075.

Junker 2365.

Mack W. 2901.

Ueeta's Son 1747.

Richard Esmond 1342.

Speedwell 2582.

Billy B. 2769.

Carl 3577.

<sup>1</sup> See footnote on page 11.

ORGANIZATION.

The official organization of the Brown Swiss breed in the United States is the Brown Swiss Cattle Breeders' Association, and the secretary for both registration and register of production resides at Beloit, Wis.

GUERNSEY.

ORIGIN AND HISTORY.

The Guernsey breed had its early development on the Channel Islands of Guernsey and Alderney, and at present cattle from either

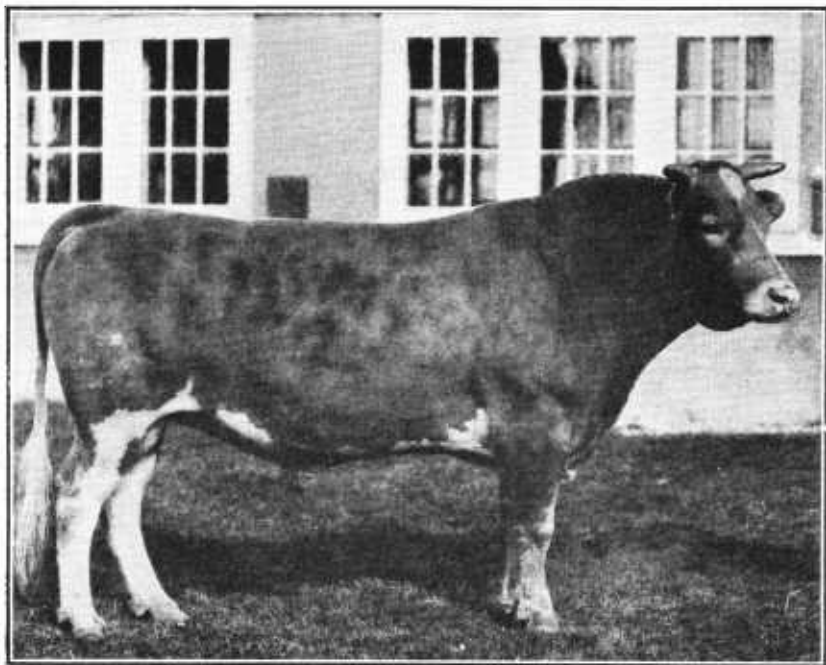


FIG. 8.—Guernsey bull, King of Chilmark 20798.

island are eligible to registry in the herdbook of the American Guernsey Cattle Club. The origin of the breed is obscure, but it is probable that the parent stock came from Normandy, France, which is adjacent to the islands. Early livestock laws of the islands prevented the importation of livestock for any purpose except slaughter, and under these conditions, in the course of the last century, the cattle developed into a distinct breed.

The climate of the Channel Islands, being mild throughout the year, allows a long grazing season.

Although they come from the same parent stock, Guernseys are larger than their companion breed, the Jerseys, and are unlike them

in some other respects, having been developed by men with different ideals.

#### IMPORTATIONS AND DISTRIBUTION.

The first representatives of the breed were imported in the early part of the nineteenth century, but not until 1878 were efforts made to keep the breeding pure in this country by the establishment of a herd register. Since that time there have been importations almost every year, and the breed has maintained a steady growth in numbers and popularity. About 50 per cent of their numbers are found east of the Alleghanies, but they are spreading westward.

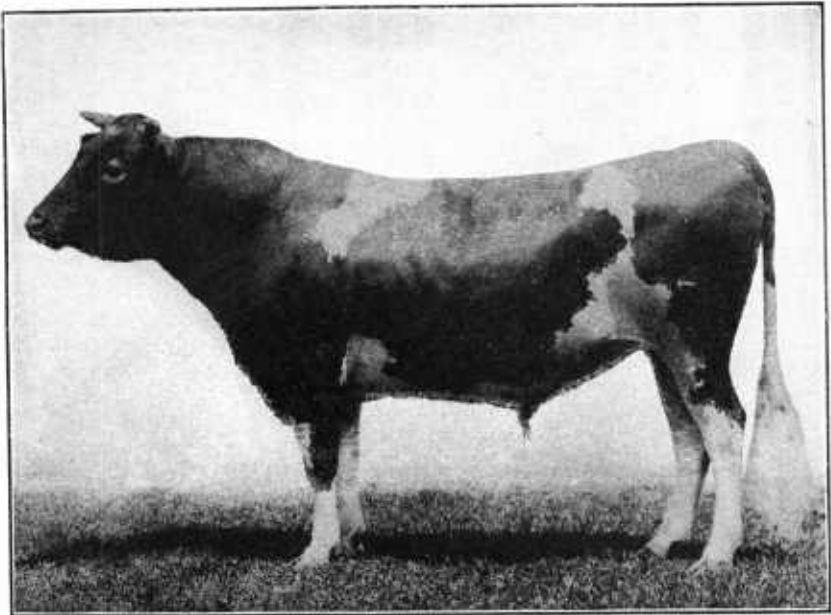


FIG. 9.—Guernsey bull, Imp. King of the May 9001.

#### CHARACTERISTICS.

The characteristic colors of Guernseys are some shade of fawn and white. The former varies from a very light orange fawn to a deep reddish or brownish fawn. An orange fawn with white markings, the fawn predominating, is perhaps the most common. The under parts of the body, legs, and switch of tail are usually white. A buff nose and amber-colored horns of medium size are typical of the breed. A rich yellow secretion of the skin is most highly thought of by breeders and is considered as an indication of the quality of the milk, which is rich in fat and highly colored.

Guernseys possess a nervous temperament, but are very quiet and gentle if properly handled and are not easily excited.

A lack of uniformity among Guernseys is perhaps the most serious criticism that can be made, but this defect is being remedied rapidly through the efforts of the breeders, and during the last few years a great improvement in this respect has been noted.

Guernseys are medium in size. The cows vary in weight from 900 to 1,400 pounds (average about 1,050 pounds); the bulls range from 1,400 to 2,200 pounds (average about 1,600 pounds). There is some resemblance between the Guernsey and the Jersey, but the former is larger and slightly coarser boned, with a deeper and more "rangy" body. The head also is somewhat longer and more narrow than that of the Jersey.

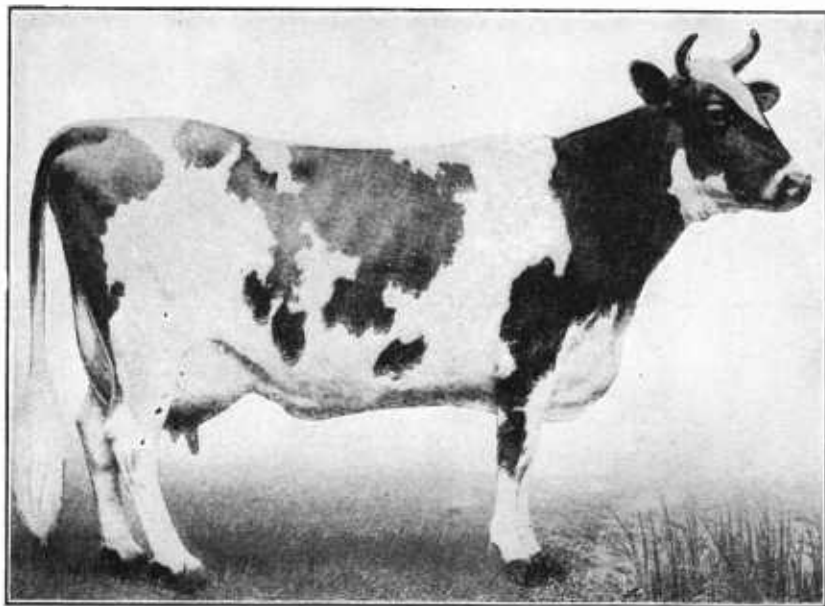


FIG. 10.—Guernsey cow, Glencoe's Bopeep 18602.

The birth weight of calves ranges from 60 to 85 pounds. Heifers reach maturity a little later than Jerseys and earlier than the other breeds.

The scale of points for cows, adopted in May, 1918, by the American Guernsey Cattle Club, is given below:

*Scale of points for Guernsey cow.*

	Points.
Head: Clean cut, lean face, wide mouth and muzzle, with open nostrils, full, bright eye, with gentle expression. Forehead long, broad between the eyes and dishing.....	6
Horns: Small at base, medium length, not too spreading.....	1
Neck: Long and thin; clean throat.....	2

	Points.
Withers: Chine rising above shoulder blades that are moderately thick and not coarse.....	3
Back: Straight from withers to hips.....	8
Hips: Wide apart, not too prominent.....	2
Rump: Long, continuing, with level of the back, also level between hip bones and pin bones.....	5
Thurls: Wide apart and high.....	2
Chest: Wide and deep at heart, with least depression possible back of the shoulders.....	4
Body: Deep and long, with well-sprung ribs, which are wide apart. Broad loin. Thin arching flank.....	10
Thighs: Thin, incurving seen from side, and wide apart from rear.....	2

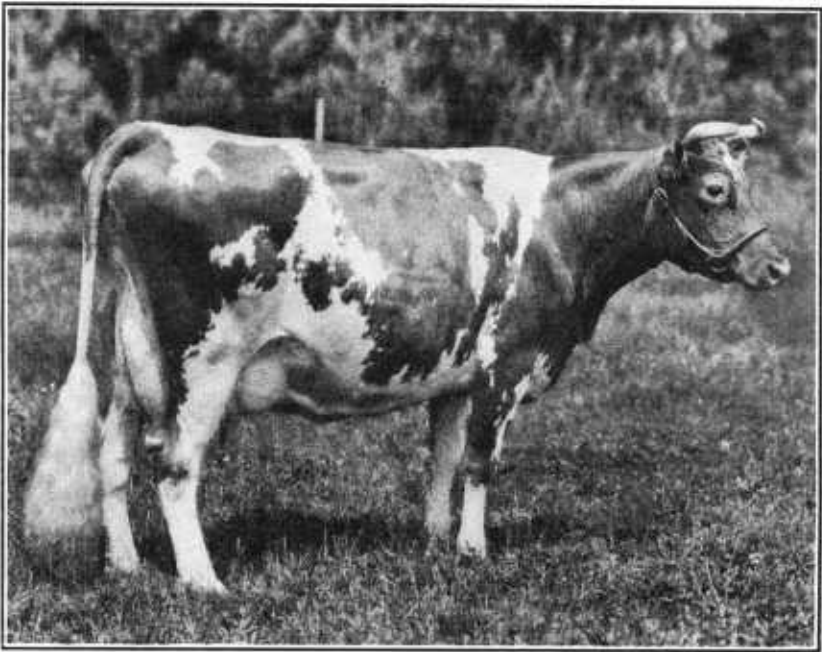


FIG. 11.—Guernsey cow, Langwater Dairymaid 26377.

Legs: Comparatively short, clean, wide apart, and nearly straight when viewed from behind, squarely set under body.....	2
Hide: Loose and pliable, and not thick, with oily feeling.....	3
Tail: Neat and firm setting on; long, good switch.....	1
Udder:	
Veins prominent.....	2
Attachment to body long and wide.....	2
Extending well forward.....	5
Level and well up behind.....	4
Teats of good, even size, well apart, and squarely placed.....	5
Milk veins: Long, crooked, branching, and prominent, with large, deep wells.....	4

Points.

Secretions indicating color of product: Indicated by the depth of yellow, inclining toward orange of the pigment secretion in the skin, on the body generally, and especially discernible in the ear, at the end of bone of tail, around the eye, on the udder and teats, and at the base of horns. Hoofs and horns amber color-----	20
Color markings: A shade of fawn with white markings-----	2
Size: Mature cows about 1,100 pounds in milking condition-----	5

100

## PRODUCTION.

Milk from Guernsey cows is noted for its extremely yellow color and high percentage of butterfat. The fat globules are larger than those in milk from either Holstein or Ayrshire cows, and consequently the cream rises more rapidly upon setting. Guernseys are particularly adapted for the production of butterfat or cream or for rich milk at a special price.

The average of 8,896 cows that have completed a year's record for the advanced register<sup>1</sup> to January 15, 1920, is 9,030.5 pounds of milk testing 5.015 per cent, amounting to 452.97 pounds of butterfat.

The 10 highest milk and butterfat producers of the breed to January 15, 1920, were as follows:

*Ten highest milk producers among Guernseys.*

	Pounds of milk.
1. Murne Cowan 19597-----	24,008.0
2. Nella Jay 4th 38233-----	20,709.9
3. Langwater Hope 27946-----	19,882.0
4. Yeksa's Tops of Gold's Fannie 22362-----	19,794.9
5. May Rilma 22761-----	19,673.0
6. Belladia 31909-----	19,631.9
7. Cinderella Josephine 34600-----	19,460.5
8. Ada of Tamworth II 43614-----	18,857.4
9. Dolly Dimple 19144-----	18,808.5
10. Langwater Nancy 27943-----	18,783.5
Average-----	19,961.0

*Ten highest producers of butterfat among Guernseys.*

	Pounds of milk.	Pounds of butterfat.
1. Murne Cowan 19597-----	24,008.0	1,098.18
2. May Rilma 22761-----	19,673.0	1,073.41
3. Nella Jay 4th 38233-----	20,709.9	1,019.25
4. Langwater Nancy 27943-----	18,783.5	1,011.66
5. Langwater Hope 27946-----	19,882.0	1,003.17
6. Yeksa's Tops of Gold's Fannie 22362-----	19,794.9	981.53
7. Spotswood Daisy Pearl 17696-----	18,602.8	957.38
8. Julie of the Chêne 30460-----	17,661.0	953.53
9. Bijou des France 44541-----	17,104.0	943.41
10. Belladia 31909-----	19,631.9	934.05
Averages-----	19,585.1	997.56

<sup>1</sup> See footnote on page 11.

## FAMILIES.

There are a number of well-developed families of Guernseys, of which the following are among the more widely known: May Rose, Glenwood, Masher's Sequel, Governor of the Chêne, Yeksa, Tricksey, and Sheet Anchor.

## BULLS.

Some of the leading sires, with their advanced-register progeny, are given below. They are arranged according to the number of their advanced-register daughters April 28, 1920.

*Ten Guernsey bulls with largest number of advanced-register daughters.*

Bull.	Number of daughters.	Average pounds of milk.	Average pounds of butterfat.	Average age, years-months.
Governor of the Chêne, R. G. A. S.				
1297 P. S.-----	99	9, 281. 37	457. 22	4-5
Masher's Sequel, 11462-----	70	10, 018. 54	463. 68	5-1
Galaxy's Sequel, 16904-----	45	9, 306. 04	471. 05	4-2
Cora's Governor of the Chilmark, 8971-----	41	9, 541. 69	478. 62	3-8
Justinée's Sequel of the Prével, R. G. A. S. 2119 P. S.-----	35	8, 943. 81	457. 79	3-6
Yeoman's King of the May, 17053-----	35	8, 759. 00	446. 99	3-1
Masher, R. A. A. S. 63 F. S.-----	32	8, 706. 06	410. 05	4-4
Clara's Sequel, 29414-----	32	9, 778. 57	478. 88	3-4
King of the May, 9001-----	30	12, 269. 23	618. 53	4-2
Princess's Jewel, 24877-----	30	9, 413. 71	460. 77	4-7

## ORGANIZATION.

The official organization of the Guernsey breed in the United States is the American Guernsey Cattle Club, and the secretary for both registration and advanced register resides at Peterboro, N. H.

## HOLSTEIN-FRIESIAN.

## ORIGIN AND HISTORY.

In the low countries bordering on the North Sea, especially in the northern part of Holland, Holstein-Friesian cattle have been bred for centuries. The land is rich and fertile and pastures are exceptionally good. Different names have been used to designate the breed, both in Europe and America, among which the following are the more common: North Hollander, Holland, Netherland, Holstein-Friesian, Dutch, Dutch-Friesian, and Holstein. The last is the name usually used in this country, although Holstein-Friesian is the official name.

## IMPORTATIONS AND DISTRIBUTION.

The Dutch settlers in the State of New York probably were the first to import individuals of the Holstein-Friesian breed, but the

first importations of which records exist were made between 1857 and 1862 by Mr. W. W. Chenery, of Massachusetts, and many of our present-day animals are descended from these importations. For a time the trade in imported Holsteins flourished, but in recent years very few animals have been imported, owing largely to the quarantine which, on account of contagious animal diseases, has been in effect a large part of the time against continental European countries.

Holsteins have grown greatly in numbers and popularity in recent years, owing in a great degree to the increased demands of large cities for market milk. Cattle of the breed are most numerous in the

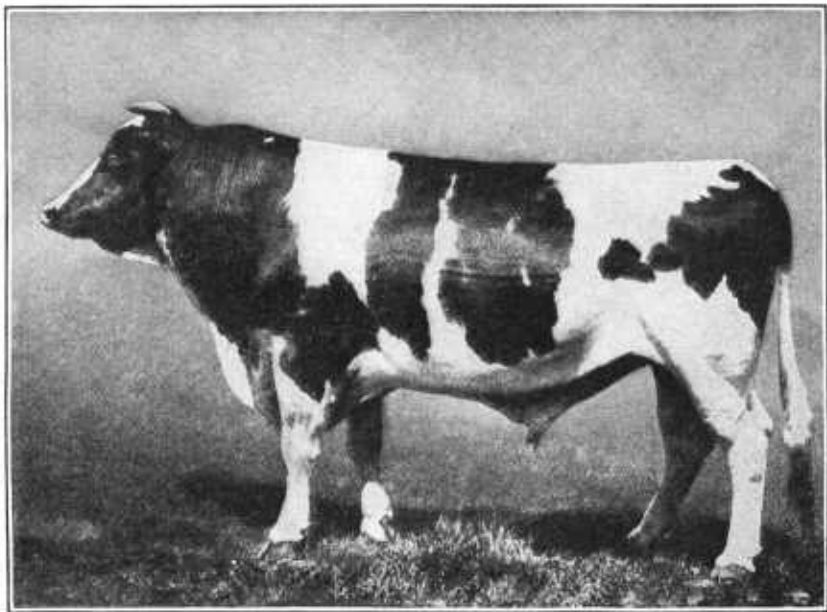


FIG. 12.—Holstein-Friesian bull, King of the Pontiacs, 39037.

Eastern and Middle Atlantic States, with the Middle Western and Pacific sections next in order. With the exception of the Jersey, there are more Holstein cattle in the United States than of any other dairy breed.

#### CHARACTERISTICS.

A universal characteristic of the Holstein-Friesian cattle is the black and white color of their coats. The sharply defined and contrasting colors of jet black and pure white give them a very striking appearance. Although either color may predominate, black below the knees is objectionable. Purebred animals with any red or gray in their coats are ineligible to registry.



In disposition Holsteins are docile, even tempered, and not excitable; in fact, they are rather lazy in general habits, as shown in their poor "rustling" ability in grazing scanty pastures. They are large consumers of feed, especially roughage, and do best when plenty is readily available.

The Holstein is the largest of the dairy breeds. It has a large, bony frame, which often is smoothly covered over all parts. Cows at maturity vary in weight from 1,100 to 1,800 pounds (average about 1,250 pounds); bulls range from 1,500 to 2,600 pounds (average about 1,800 pounds). The calves are usually thrifty and vigorous at birth

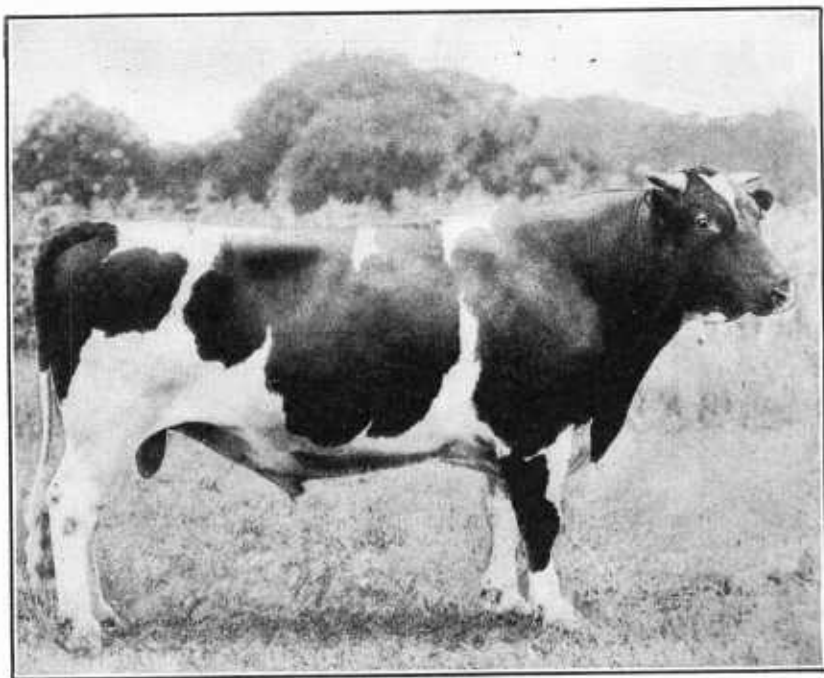


FIG. 13.—Holstein-Friesian bull, Sir Pietertje Ormsby Mercedes 14th 81142.

and make rapid growth. The birth weight varies from 70 to 110 pounds, in some cases exceeding even the latter figure. Heifers reach maturity in frame at about 4 years, although increases in body weight occur up to 6 or 7 years of age. As a breed the Holstein shows good constitutional vigor. The breed has been criticised for irregular udders and sloping rumps, but these defects are being remedied.

In order to show the general characteristics which the breeders consider desirable, the scale of points for cows, revised and adopted in June, 1904, by the Holstein-Friesian Association of America, is given as follows:

*Scale of points for Holstein-Friesian cow.*

[The interlines in smaller type relate entirely to the method of application agreed upon by the judges in order to secure uniformity of work. The abbreviations are as follows: vs, very slight; s, slight; m, marked; vm, very marked; e, extreme.]

	Possible score.
Head: Decidedly feminine in appearance, fine in contour-----	2
Discredit, vs $\frac{1}{2}$ , s $\frac{1}{4}$ , m $\frac{1}{2}$ , vm $\frac{3}{4}$ , e 1.	
Forehead: Broad between the eyes, dishing-----	2
Discredit, vs $\frac{1}{2}$ , s $\frac{1}{4}$ , m $\frac{1}{2}$ , vm $\frac{3}{4}$ , e 1.	
Face: Of medium length, clean and trim, especially under the eyes, showing facial veins; the bridge of the nose straight-----	2
Discredit, s $\frac{1}{4}$ , m $\frac{1}{2}$ , e $\frac{1}{2}$ .	
Muzzle: Broad, with strong lips-----	1
Discredit, s $\frac{1}{4}$ , m $\frac{1}{2}$ , e $\frac{1}{2}$ .	

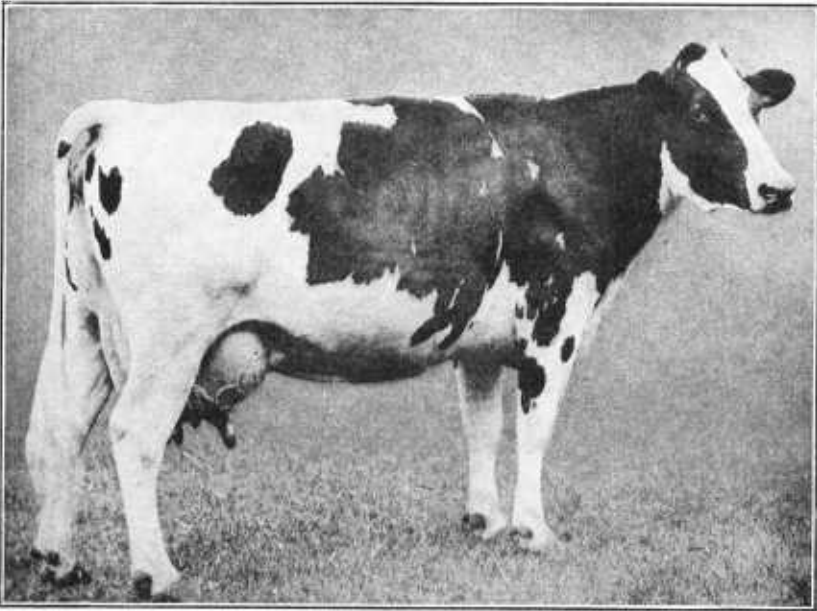


FIG. 14.—Holstein-Friesian cow, Duchess Skylark Ormsby 124514.

Ears: Of medium size, of fine texture, the hair plentiful and soft, the secretions oily and abundant-----	1
Discredit, m $\frac{1}{2}$ , e $\frac{1}{2}$ .	
Eyes: Large, full, mild, bright-----	2
Discredit, s $\frac{1}{4}$ , m $\frac{1}{2}$ , e $\frac{1}{2}$ .	
Horns: Small, tapering finely toward the tips, set moderately narrow at base, oval, inclining forward, well bent inward, of fine texture, in appearance waxy-----	1
Discredit, m $\frac{1}{2}$ , e $\frac{1}{2}$ .	
Neck: Long, fine and clean at juncture with the head, free from dewlap, evenly and smoothly joined to shoulders-----	4
Discredit, vs $\frac{1}{2}$ , s $\frac{1}{4}$ , m $\frac{1}{2}$ , vm $\frac{3}{4}$ , e 1.	
Shoulders: Slightly lower than the hips, fine and even over tops, moderately broad and full at sides-----	3
Discredit, vs $\frac{1}{2}$ , s $\frac{1}{4}$ , m $\frac{1}{2}$ , vm $\frac{3}{4}$ , e 1.	
Chest: Of moderate depth and lowness, smooth and moderately full in the brisket, full in the foreflanks (or through at the heart)-----	6
Discredit, vs $\frac{1}{2}$ , s $\frac{1}{4}$ , m 1, vm $1\frac{1}{2}$ , e 2.	

	Possible score.
Crops: Moderately full-----	2
Discredit, vs $\frac{1}{2}$ , s $\frac{1}{2}$ , m $\frac{1}{2}$ , vm $\frac{1}{2}$ , e 1.	
Chine: Straight, strong, broadly developed, with open vertebrae-----	6
Discredit, vs $\frac{1}{2}$ , s $\frac{1}{2}$ , m $\frac{1}{2}$ , vm $\frac{1}{2}$ , e 1.	
Barrel: Long, of wedge shape, well rounded, with a large abdomen trimly held up; (in judging the last item, age must be considered)-----	7
Discredit, vs $\frac{1}{2}$ , s $\frac{1}{2}$ , m $\frac{1}{2}$ , vm $\frac{1}{2}$ , e 1.	
Loin and hips: Broad, level or nearly level between the hook bones, level and strong laterally, spreading out from chine broadly and nearly level, hook bones fairly prominent-----	6
Discredit, vs $\frac{1}{2}$ , s $\frac{1}{2}$ , m $\frac{1}{2}$ , vm $\frac{1}{2}$ , e 1.	

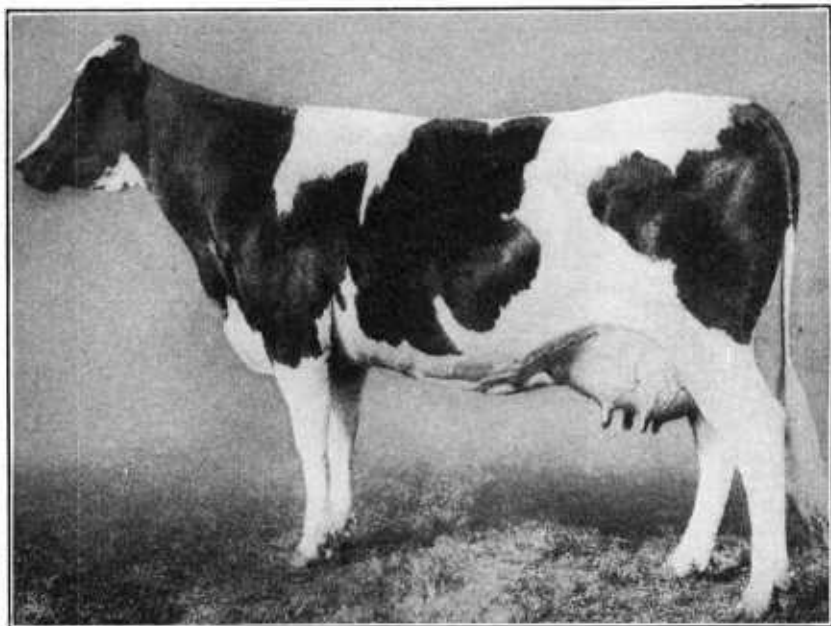


FIG. 15.—Holstein-Friesian cow, Tilly Alcartra 123459.

Rump: Long, high, broad with roomy pelvis, nearly level laterally, comparatively full above the thurl, carried out straight to dropping of tail--	6
Discredit, vs $\frac{1}{2}$ , s $\frac{1}{2}$ , m $\frac{1}{2}$ , vm $\frac{1}{2}$ , e 1.	
Thurl: High, broad-----	3
Discredit, vs $\frac{1}{2}$ , s $\frac{1}{2}$ , m 1, vm $1\frac{1}{2}$ , e 2.	
Quarters: Deep, straight behind, twist filled, with development of udder, wide and moderately full at the sides-----	4
Discredit, vs $\frac{1}{2}$ , s $\frac{1}{2}$ , m $\frac{1}{2}$ , vm $\frac{1}{2}$ , e 1.	
Flanks: Deep, comparatively full-----	2
Discredit, vs $\frac{1}{2}$ , s $\frac{1}{2}$ , m $\frac{1}{2}$ , vm $\frac{1}{2}$ , e 1.	
Legs: Comparatively short, clean and nearly straight, wide apart, firmly and squarely set under the body; feet of medium size, round, solid, and deep-----	4
Discredit, vs $\frac{1}{2}$ , s $\frac{1}{2}$ , m $\frac{1}{2}$ , vm $\frac{1}{2}$ , e 1.	
Tail: Large at base, the setting well back, tapering finely to switch, the end of the bone reaching to hocks or below, the switch full-----	2
Discredit, s $\frac{1}{2}$ , m $\frac{1}{2}$ , e $\frac{1}{2}$ .	

	Possible score.
Hair and handling: Hair healthful in appearance, fine, soft, and furry; the skin of medium thickness and loose, mellow under the hand; the secretions oily, abundant, and of a rich brown or yellow color-----	8
Discredit, vs $\frac{1}{2}$ , s $\frac{1}{2}$ , m 1, vm $1\frac{1}{2}$ , e 2.	
Mammary veins: Very large, very crooked (age must be taken into consideration in judging of size and crookedness), entering very large or numerous orifices, double extension, with special developments, such as branches, connections, etc-----	10
Discredit, vs $\frac{1}{2}$ , s $\frac{1}{2}$ , m 1, vm $1\frac{1}{2}$ , e 2.	
Udder: Very capacious, very flexible, quarters even; nearly filling the space in the rear below the twist, extending well forward in the front, broad and well held up-----	12
Discredit, vs $\frac{1}{2}$ , s $\frac{1}{2}$ , m 1, vm $1\frac{1}{2}$ , e 2.	
Teats: Well formed, wide apart, plump and of convenient size-----	2
Discredit, vs $\frac{1}{2}$ , s $\frac{1}{2}$ , m $\frac{1}{2}$ , vm 1, e $1\frac{1}{2}$ .	
Escutcheon: Largest, finest-----	2
Discredit, vs $\frac{1}{2}$ , s $\frac{1}{2}$ , m $\frac{1}{2}$ , vm $\frac{1}{2}$ , e 1.	
	100

## PRODUCTION.

From the point of view of quantity of milk produced, Holsteins average higher than any other breed. The percentage of butterfat, however, which averages lower than that of any other dairy breed, tends to counterbalance the advantage of a greater milk production. The butterfat of Holstein milk is in the form of very minute globules, and for that reason the cream does not rise rapidly on the milk. The small globules are an advantage, because the milk is not liable to churn in shipping. Holstein milk has little color.

It is impossible to determine accurately the average production of the breed, but an average of all the cows that have completed a yearly record for the advanced register<sup>1</sup> to April 30, 1919, will give some indication of the breed's production; 4,974 cows averaged 14,783.2 pounds of milk, testing 3.42 per cent butterfat, amounting to 505.71 pounds of fat. The 10 highest producers of the breed whose records have been completed to January 14, 1920, are given in the following table:

*Ten highest milk producers among Holsteins.*

	Pounds of milk in a year.
1. Tilly Alcartra 123459-----	33,425.3
2. Lutscke Vale Cornucopia 110505-----	31,246.9
3. Winnie Korndyke Cornucopia De Kol 101449-----	31,034.2
4. Raphaella Johanna Aaggie 3d 185125-----	<sup>2</sup> 30,637.2
5. Zarilda Clothilde 3d De Kol 133840-----	<sup>2</sup> 30,427.0
6. Queen Piebe Mercedes 154610-----	30,230.2
7. Lindale Bonnie Pauline 177521-----	30,024.1
8. Royalton De Kol Violet 86460-----	29,949.6
9. Laurameka 187954-----	29,899.0
10. Ignaro Creamcup 102569-----	29,545.0
Average-----	30,641.9

<sup>1</sup> See footnote on page 11.<sup>2</sup> Strictly official.

*Ten highest butterfat producers among Holsteins.*

	Pounds of milk.	Pounds of butterfat.
1. Duchess Skylark Ormsby 124514.....	27, 761. 7	1, 205. 09
2. Finderne Pride Johanna Rue 121083.....	28, 403. 7	1, 176. 47
3. Finderne Holingen Fayne 144551.....	24, 612. 8	1, 116. 05
4. Queen Piebe Mercedes 154610.....	30, 230. 2	1, 111. 56
5. Emeretta Korndyke De Kol 189227.....	28, 035. 7	1, 077. 55
6. Ona Button De Kol 115939.....	26, 761. 2	1, 076. 44
7. Maple Crest Pontiac Application 141158.....	23, 421. 2	1, 075. 44
8. Aaggie Acme of Riverside 2d 164467.....	24, 690. 0	<sup>2</sup> 1, 065. 42
9. Laurameka 187954.....	29, 899. 0	1, 061. 27
10. Glen Canary De Kol 2d 227232.....	25, 590. 6	1, 058. 69
Averages.....	26, 940. 6	1, 102. 40

## FAMILIES.

The families of Holsteins are very numerous, and it is difficult to determine which are the more important. Probably the following are among the more widely known: Aaggie, Abbekerk, Artis, Beets, Burke, Butter Boy, Carlotta, Clothilde, Colantha, De Kol, Fayne, Gerben, Hartog, Hengerveld, Johanna, Korndyke, Mechthilde, Mercedes, Mutual, Netherland, Ormsby, Pietertje, Pietje, Pontiac, Sarcastic, Segis, Spofford, Vale, and Veeman.

## BULLS.

Following is a list of the 10 Holstein bulls having the largest number of daughters with yearly records to April 30, 1919. In making up this list all tests extending over 300 days or more are counted as yearly tests. The average production of the yearly record daughters of each bull is also given.

*Ten Holstein bulls with largest number of yearly record daughters.*

	Number of yearly record daughters.	Average pounds of milk.	Average pounds of but- terfat.
1. Sir Pietertje Ormsby Mercedes, 44931.....	40	17, 305. 7	631. 27
2. King of the Pontiacs, 39037.....	39	16, 576. 1	625. 65
3. Sir Johanna Fayne, 42147.....	26	16, 709. 6	526. 45
4. Dutchland Colantha Sir Inka, 50999.....	24	15, 395. 7	529. 14
5. King Pontiac Dione, 82505.....	23	10, 970. 3	375. 48
6. King Pontiac Champion, 53418.....	22	17, 983. 4	630. 09
7. Johanna De Kol's Lad, 26938.....	22	15, 684. 7	515. 51
8. Paul Frenesta De Kol, 41206.....	20	15, 139. 7	479. 96
9. Homestead Girl De Kol Sarcastic Lad, 32558.....	19	17, 875. 3	611. 04
10. Sir Ormsby Hengerveld De Kol, 31212.....	17	14, 972. 2	522. 29

## ORGANIZATION.

The Holstein-Friesian Association of America is the official organization of the breed in the United States, with headquarters at

<sup>2</sup> Strictly official.

Brattleboro, Vt., where the secretary resides. The headquarters of the advanced-register work of the association is at Delavan, Wis.

#### JERSEY.

##### ORIGIN AND HISTORY.

The island of Jersey, the largest of the Channel Islands, is the native home of the Jersey breed of cattle. Except for immediate slaughter, no cattle have been landed on the island since 1779, so that ever since that time the purity of the breed has been preserved. It seems probable that the foundation stock is the same as the Guernsey,

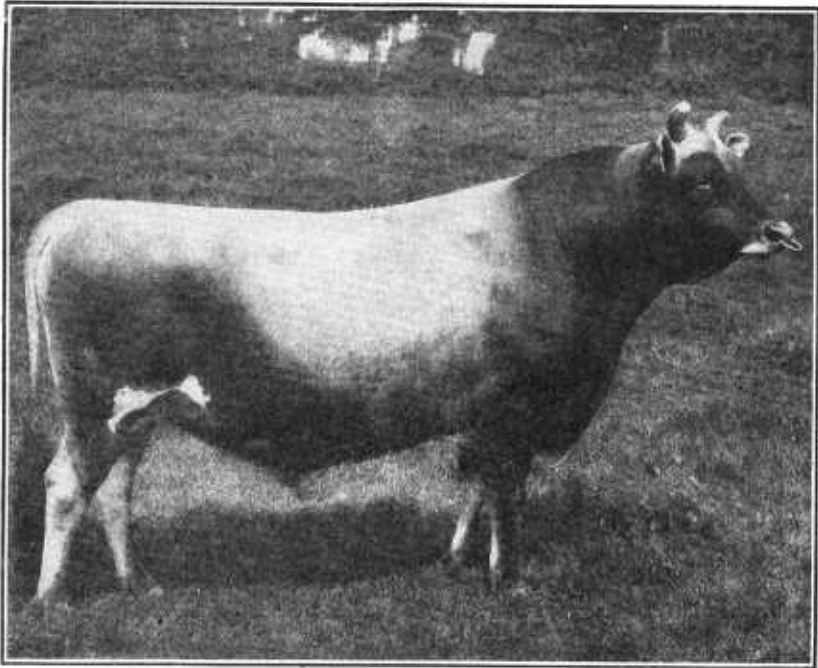


FIG. 16.—Jersey bull, Fauvie's Prince 107961.

namely, from Brittany and Normandy, in near-by northwestern France. Conditions in Jersey are similar to those in Guernsey. The breeders on the island have developed cattle that, in addition to productive ability, have uniformity of type and natural beauty, while in America the breeders have developed greater size and production, with less refinement of features.

##### IMPORTATIONS AND DISTRIBUTION.

Jerseys were first imported into the United States about the middle of the last century, and since that time importations have been

made practically every year. The breed probably has the largest numbers and widest distribution of all the dairy breeds in this country. Large numbers of Jerseys may be found throughout New England, the Middle West, the South, and the Southwest.

#### CHARACTERISTICS.

Jerseys vary considerably in color. The solid-colored animals are preferred by many breeders. Various shades of fawn, squirrel gray, mouse color, and very dark brown are common colors, and in the broken-colored animals white is mixed with these colors.

The muzzles and tongues are usually black or lead colored, and it is very common for animals to have a light or mealy ring around

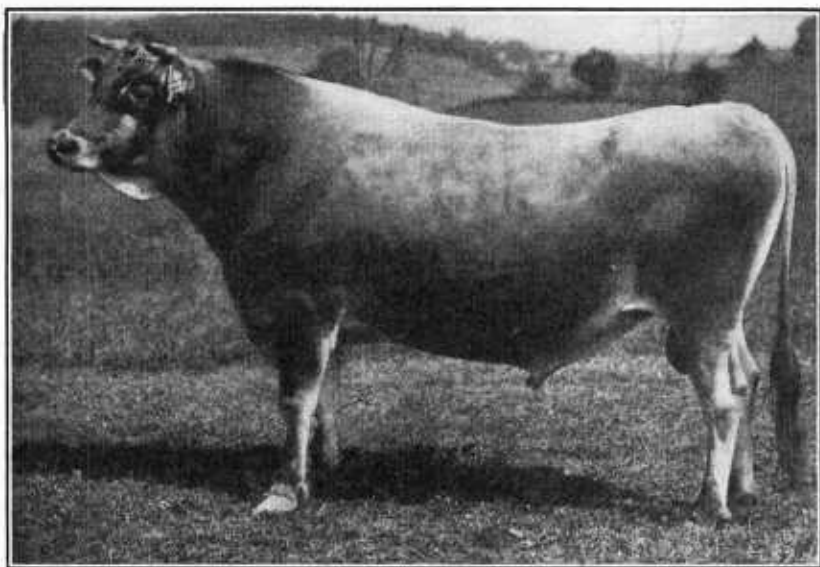


FIG. 17.—Jersey bull, The Imported Jap 75265.

the muzzle. A black switch is also a desirable feature. Next to the Guernsey the Jersey has the yellowest skin secretion of all the dairy breeds. The horns are small, waxy, and frequently tipped with black.

Jerseys have a distinctly nervous disposition and are usually somewhat excitable. Their highly organized nervous system causes them to respond quickly to good treatment and abundant feed. The udders are symmetrical and have sufficiently large teats.

Jerseys are the smallest of the dairy breeds. Mature cows range from 700 to 1,300 pounds in weight (average about 900 pounds); bulls vary from 1,400 to 2,000 pounds (average about 1,500 pounds). Compared with the Guernsey, the Jersey is smaller, and has finer features and more refinement throughout.

The birth weight of calves ranges from 45 to 75 pounds. Animals of the breed mature very early, in this respect excelling all other dairy breeds.

The scale of points for a Jersey cow, adopted May 7, 1913, by the American Jersey Cattle Club, shows the points which the breeders have in mind.

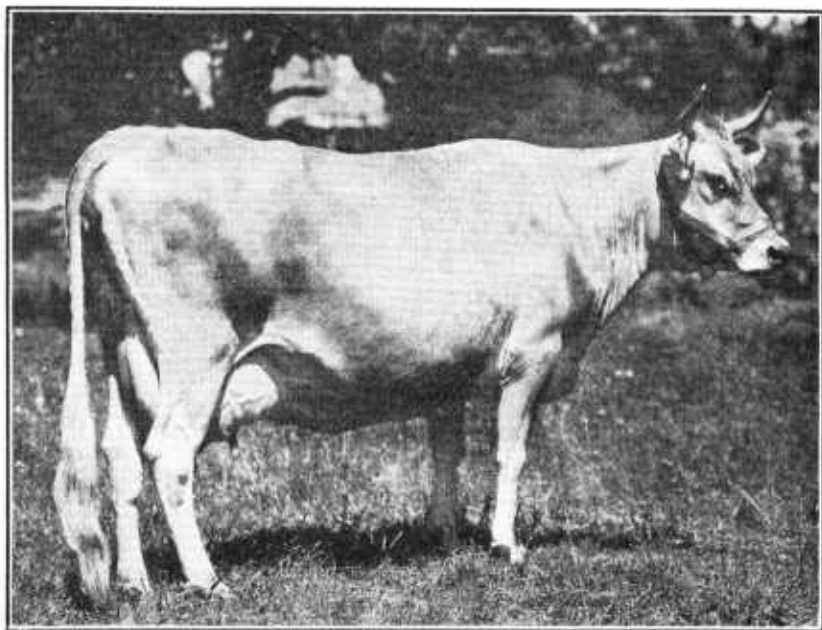


FIG. 18.—Jersey cow, Vive La France 319616.

*Scale of points for Jersey cow.*

Dairy temperament and constitution:		Counts.
Head -----		7
Medium size, lean, face dished, broad between eyes; horns medium size, incurving -----		3
Eyes full and placid; ears medium size, fine, carried alert; muzzle broad, with wide open nostrils and muscular lips, jaws strong -----		4
Neck, thin, rather long, with clean throat, neatly joined to head and shoulders -----		4
Body -----		37
Shoulders light, good distance through from point to point, but thin at withers; chest deep and full between and just back of forelegs -----		5
Ribs amply sprung and wide apart, giving wedge shape, with deep, large abdomen, firmly held up, with strong muscular development -----		10
Back straight and strong, with prominent spinal processes; loins broad and strong -----		5



## Dairy temperament and constitution—Continued.

## Body—Continued.

Counts.

Rump long to tail setting, and level from hip bones to rump bones .....	6
Hip bones high and wide apart .....	3
Thighs flat and wide apart, giving ample room for udder .....	3
Legs proportionate to size and of fine quality, well apart, with good feet, and not to weave or cross in walking .....	2
Hide loose and mellow .....	2
Tail thin, long, with good switch, not coarse at setting on .....	1

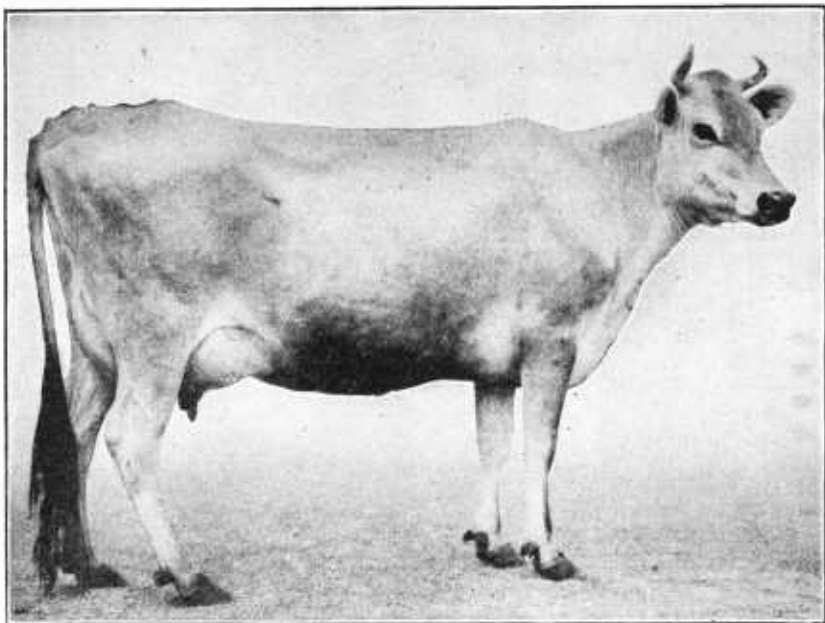


FIG. 19.—Jersey cow, Sophie 19th of Hood Farm 189748.

## Mammary development:

Udder .....	26
Large size, flexible and not fleshy .....	6
Broad, level or spherical, not deeply cut between teats .....	4
Fore udder full and well rounded, running well forward of front teats .....	10
Rear udder well rounded, and well out and up behind .....	6
Teats: Of good and uniform length and size, regularly and squarely placed .....	8
Milk veins: Large, long, tortuous, and elastic, entering large and numerous orifices .....	4
Size: Mature cows, 800 to 1,000 pounds .....	4

General appearance: A symmetrical balancing of all the parts and a proportion of parts to each other, depending on size of animal, with the general appearance of a high-class animal, with capacity for food and productiveness at pail----- 10

100

## PRODUCTION.

In natural yellow color the milk of Jersey cows ranks next to that of Guernsey cows and is usually slightly richer in butterfat. The large fat globules cause the cream to rise readily upon standing. Jerseys, like Guernseys, are adapted to the production of butterfat.

The average of the 12,258 cows that have completed yearly records for the register of merit <sup>1</sup> up to October 20, 1919, is 7,931 pounds of milk testing 5.35 per cent, making 424 pounds of butterfat. The 10 highest milk and butterfat producers for the breed to February 27, 1920, are given below:

*Ten highest milk producers among Jerseys.*

	Pounds of milk.
1. Passport 219742-----	19,694.8
2. Eminent's Bess 209719-----	18,782.9
3. Lass 40th of Hood Farm 223642-----	18,661.4
4. Melia's Rilma 249446-----	18,255.8
5. Rochette's Princess 253833-----	17,891.1
6. Lass 66th of Hood Farm 271896-----	17,793.7
7. Successful Queen 278743-----	17,580.9
8. Sophie 19th of Hood Farm 189748-----	17,557.7
9. Merry Miss Oonette 288311-----	17,529.9
10. Majesty's Iris 265701-----	17,469.7
Average-----	18,121.8

*Ten highest butterfat producers among Jerseys.*

	Pounds of milk.	Pounds of butterfat.
1. Plain Mary 268206-----	15,255.9	1,040.07
2. Vive La France 319616-----	14,925.7	<sup>2</sup> 1,031.64
3. Sophie's Agnes 296759-----	16,212.0	<sup>2</sup> 1,000.07
4. Sophie 19th of Hood Farm 189748-----	17,557.8	999.10
5. Spermfield Owl's Eva 193934-----	16,457.4	993.30
6. Old Man's Darling 2d 319617-----	14,631.0	<sup>2</sup> 983.68
7. Eminent's Bess 209719-----	18,782.9	962.80
8. Oxford's Wexford Spot 259464-----	16,361.0	958.85
9. Dosoris Park Lily 233783-----	16,728.1	<sup>2</sup> 957.43
10. Majesty's Iris 265701-----	17,469.7	955.87
Averages-----	16,438.2	988.28

<sup>1</sup> See footnote on page 11.<sup>2</sup> Carried living calf 6 months or more during test.

## FAMILIES.

A considerable number of families have been developed, and it is difficult to determine which are the most prominent, but probably the following are among the best known: Combination, Eminent, Financial King, Gamboge Knight, Golden Glow's Chief, Golden Maid's Prince, Jap-Sayda, Majesty, Noble, Olga Lad, Owl-Interest, Oxford You'll Do, Raleigh, St. Lambert, St. Mawes, and Sophie Tormentor.

## BULLS.

The 10 leading Jersey bulls, with the number of their tested daughters and the average of the 10 highest daughters of each, to February 10, 1920, are given below.

*Ten best Jersey bulls.*

	Average of 10 highest daughters (pounds fat).	Register of merit daughters (year rec- ords).
1. Hood Farm Torono 60326 <sup>1</sup> -----	811	72
2. Pogis 99th of Hood Farm 94502 <sup>1</sup> -----	805	53
3. Spermfild Owl 57088 <sup>1</sup> -----	743	45
4. St. Mawes 72053 <sup>1</sup> -----	727	20
5. The Imported Jap 75265 <sup>1</sup> -----	709	30
6. Royal Majesty 79313 <sup>1</sup> -----	704	41
7. Imported Oxford You'll Do 111860 <sup>1</sup> -----	697	53
8. Golden Glow's Chief 61460 <sup>1</sup> -----	696	40
9. Raleigh's Fairy Boy 83767-----	617	48
10. Fauvic's Prince 107961-----	573	<sup>2</sup> 13

## ORGANIZATION.

The American Jersey Cattle Club is the official organization, with headquarters at 324 West Twenty-third Street, New York, N. Y., which is the address of the secretary for both registration and register of merit.

## THE PARTS OF A COW.

The accompanying diagram indicates the various parts of a cow that are mentioned in the score cards given in this bulletin, which are used by the respective breed associations in judging dairy cattle.

<sup>1</sup> American Jersey Cattle Club gold-medal bulls, having three or more daughters each of which made a record exceeding 700 pounds of butterfat, and carried a living calf 155 days or more during the test.

<sup>2</sup> All these made their records with their first calves. Average age at calving, 25 months.

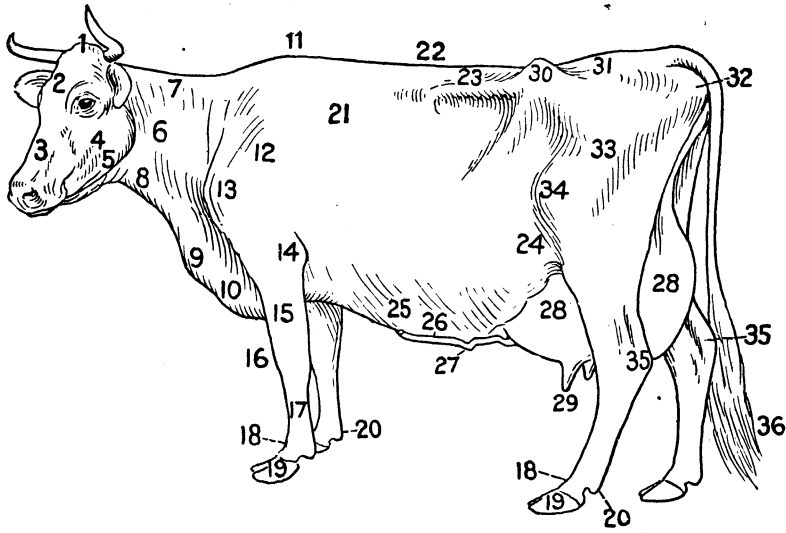


FIG. 20.—Diagram of cow showing points.

- |                        |                                 |                                    |
|------------------------|---------------------------------|------------------------------------|
| 1. Poll.               | 15. Arm or forearm.             | 28. Udder.                         |
| 2. Forehead.           | 16. Knee.                       | 29. Teats.                         |
| 3. Bridge of nose.     | 17. Shank.                      | 30. Hook, or hook bone.            |
| 4. Cheek.              | 18. Ankle.                      | 31. Pelvic arch.                   |
| 5. Jaw.                | 19. Hoof.                       | 32. Pin bone, thurl, or rump bone. |
| 6. Neck.               | 20. Fetlock.                    | 33. Thigh.                         |
| 7. Crest of neck.      | 21. Crop.                       | 34. Stifle.                        |
| 8. Throat.             | 22. Chine.                      | 35. Hock.                          |
| 9. Dewlap.             | 23. Loin.                       | 36. Switch or brush of tail.       |
| 10. Brisket.           | 24. Flank.                      |                                    |
| 11. Withers.           | 25. Milk well.                  |                                    |
| 12. Shoulder.          | 26. Milk vein, or mammary vein. |                                    |
| 13. Point of shoulder. | 27. Navel.                      |                                    |
| 14. Elbow.             |                                 |                                    |

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